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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Griffey and Swayze

Serial No.: Not Yet Determined

Group Art Unit: Not Yet Determined

Filed: Herewith

Examiner: Not Yet Determined

For: **GENERATION OF VIRTUAL COMBINATORIAL LIBRARIES OF  
COMPOUNDS**

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Date of Deposit January 3, 2001

Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

**PRELIMINARY AMENDMENT**

In connection with the above-identified continuation application filed herewith, Applicants respectfully request that the application be amended as follows.

**In the Claims:**

Please amend claims 7, 8, 12 and 13 as indicated.

7. (Amended) A method of identifying *in silico* each compound of a virtual library of compounds comprising:

selecting each of said compounds for said virtual library and, for each, dissecting said [compounds] compound into fragments; and

identifying each of said fragments in terms of a transformation wherein said transformation is a one to one link between the fragment and a reagent used to introduce said fragment into a compound.

8. (Amended) The method of claim 7 wherein said transformation is [further] associated with auxiliary reagents or reaction conditions.

12. (Amended) A method of identifying *in silico* each compound of a virtual library of compounds comprising:

selecting each of said compounds for said virtual library and, for each, dissecting said [compounds] compound into fragments;

assigning to each of said fragments at least one identifying characteristic;

adding said fragments together in sequential synthesis rounds;

assigning at least one transformation characteristic to each of said synthesis rounds; [and]

tracking [the] and storing said addition of fragments and said assigned transformation characteristics of said compounds in a database; and

identifying each of said compounds by its fragments and transformations stored in said database.

13. (Amended) A method of identifying *in silico* each compound of a virtual library of compounds comprising:

selecting each of said compounds for said virtual library and, for each, dissecting said compounds into fragments;

representing each of said fragments [in silico] *in silico* as a transformation wherein each transformation is a one to one link between a fragment and a reagent used to introduce said fragment into one of said compounds;

adding said transformations together in sequential synthesis rounds; [and]

tracking and storing said fragments and said transformations [in silico] *in silico*; and

identifying each of said compounds *in silico* by identifying the stored fragments and transformations associated with each compound.

## REMARKS

The present application is a continuation of U.S. Serial No. 09/076,405 filed May 12, 1998. Claims 7, 8, 12 and 13 are pending in the present application. Claims 7, 8, 12 and 13 have been amended herein. Upon entry of the present amendment, claims 7, 8, 12 and 13 will remain pending.

**I. Claims 7 and 8 Are Not Anticipated By The Walters Reference**

Claims 7 and 8 were rejected under 35 U.S.C. §102(a) as allegedly being anticipated by Walters *et al.*, *Drug Discovery Today*, 1998, 3, 160-178. Applicants traverse the rejection and request reconsideration because the Walters reference does not teach each and every element of the claimed invention.

The standard for anticipation under §102 is one of strict identity. An anticipation rejection requires a showing that each limitation of a claim be found in a single reference. *Atlas Powder Co. v. E.I. DuPont de Nemours & Co.*, 224 U.S.P.Q. 409, 411 (Fed. Cir. 1984). The Walters reference does not teach each and every element of the claimed invention. Claim 7 recites that each of the compounds for the virtual library is selected and dissected into fragments. In contrast, the portions of the Walters references referred to in the Office Action in the parent application (Figure 13 and corresponding text on page 168) are directed to construction of a library of compounds on a computer and not to dissection of each compound of a virtual library. In addition, the text on pages 168-169 of the Walters reference reports that a computer program can be used to determine which compounds of a library can be easily synthesized. The Walters reference does not teach identifying each of the fragments, produced as a result of the dissection of each compound of a library, in terms of a transformation that links the fragment to a reagent that is used to introduce the fragment into the compound. Further, the Walters reference fails to teach that a transformation is associated with auxiliary reagents or reaction conditions. Thus, the Walters reference does not teach each and every element of the claimed invention. Accordingly, Applicants respectfully request that the rejection of claims 7 and 8 under 35 U.S.C. §102(a) be withdrawn.

**II. The Claims Define Patentable Subject Matter**

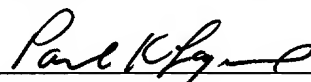
Claims 7, 8, 12 and 13 were rejected in parent application Serial No. 09/076,405 under 35 U.S.C. §101 as allegedly reciting a process comprising an abstract idea. Applicants traverse the rejection in view of the amended claims and request reconsideration thereof.

The Office Action mistakenly asserts that claims 7, 8, 12 and 13 do not recite 1) data gathering limitations or post-mathematical operations that might independently limit the claims beyond performance of a mathematical operation; or 2) limit the use of the output to a practical application providing a useful, concrete, and tangible result. Claims 7, 12 and 13, however, recite "selecting each of said compounds for said virtual library." Clearly, this recited phrase is a data gathering limitation that renders the claim beyond performance of a mathematical operation. It is the practitioner of the claimed method that selects each of the compounds of the virtual library, from the millions of possible compounds, that the practitioner intends to make. Thus, claims 7, 8, 12 and 13 are clearly patentable. Accordingly, Applicants respectfully request that the rejection of claims 7, 8, 12 and 13 under 35 U.S.C. §101 be withdrawn.

**III. Conclusion**

In view of the foregoing, Applicants respectfully submit that claims 7, 8, 12 and 13 are in condition for allowance. An early notice of the same is earnestly solicited.

Respectfully submitted,

  
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